ABSTRACT

A tool-less blade clamps (10, 50) may include a rod (2, 52) having a slot (2a, 2c, 52c) and a guide slot (2b, 52b) formed substantially perpendicularly to the slot (2a, 2c, 52c). A control member (20, 56) may be slidably disposed within the slot (2a, 2c, 52c) and a spring (21, 57) preferably biases the control member (20, 56) towards a forward portion of the slot (2a, 2c, 52c). The rod (2, 52) rotatably supports a sleeve (11, 53). Preferably, the sleeve (11, 53) being prevented from axially displacing with respect to the rod (2, 52) when the sleeve (11, 53) rotates about the rod (2, 52). An L-shaped slot (16, 53a) may be formed in the sleeve (11, 53) and may have a blade lock slot (16b, 53ab) disposed substantially perpendicularly to a blade lock control slot (16a, 53aa). The control member (20, 53) may include a pin (22, 55) that extends through the guide slot (2b, 52b) and travels within the L-shaped slot (16, 53a). The rod (2, 52) may include a hole (2e, 59a) formed substantially perpendicular to the slot (2a, 2c, 52c). A pressing member (18, 51) may be slidably disposed within the hole (2e, 59a). A cam surface (17, 53b) is preferably defined along an inner surface of the sleeve (11, 53) and the cam surface (17, 53b) urges the pressing member (18, 51) towards the slot (2a, 2c, 52c) when the sleeve (11, 53) is rotated about the rod (2, 52) to a blade clamp position. Preferably, rotation of the sleeve (11, 53) towards a blade release position causes the control member (20, 53) to move towards the forward portion of the slot (2a, 2c, 52c) due to the biasing force of the spring (21, 57) and the sleeve (11, 53) is automatically locked in the blade release position. Further, insertion of a blade (3) into the slot (2a, 2c, 52c) releases the sleeve (11, 53) from the blade release position and the sleeve (11, 53) automatically returns to the blade clamping position to securely attach the blade (3) to the rod (2, 52).